

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

As required, the Abstract and specification have been reviewed and amended so as to place them into appropriate USTPO format.

Claims 3 and 11 have also been amended so as to obviate the outstanding rejection of claims 3 and 11 under 35 U.S.C. §112, second paragraph. With respect to the equation which, due to typographical errors, was missing from claim 3, that equation was already in claim 12 and was in the originally filed PCT application at pages 4 and 8. Somehow in the International amendment process, the equations were omitted from amended pages 3 and 4a. The above amendment adds these equations back to conform with the originally filed application.

Accordingly, all outstanding formal issues are now believed to have been resolved in the applicant's favor.

The indication of allowable subject matter at claims 3 and 12 is appreciatively noted.

The rejection of claims 1, 2, 5-11 and 13 under 35 U.S.C. §102 as allegedly anticipated by Stevenson '069 is respectfully traversed.

The present invention relates "generating a single side band spread spectrum signal based on an input signal" as defined in amended claim 1. Amended claim 1 now defines five separate steps for generating the single side band spread spectrum signal based on an input signal. Step i) of claim 1 may be performed by the spreading signal generator 1 of Figure 3a; step ii) may be

performed by the Hilbert transform filter 3; step iii) may be performed by the complex modulator 6, step iv) may be performed by the low pass filter 2; and step v) may be performed the modulators 4 and 5. Claim 1, and specifically the five steps therein, are defined in such a way as to cover all five embodiments of Figure 3a-3e. All five embodiments share common functional elements and operational steps, with the condition that the phase shifting step is performed before upconversion step using the Hilbert transform filter.

It should be clear from claim 1, as well as the corresponding embodiments illustrated in Figures 3a-3e, that the invention relates to generating a single side band spread spectrum signal based on an input signal.

Stevenson describes a transmitter, in Figure 1, for generating an ACSB signal output at as an intermediate frequency (I.F.) output. Referring to Figure 1, an audio input is fed into the circuit which essentially uses a Weaver modulator together with a high pass filter to generate the single sideband signal (specifically an ACSB signal). This technique does not involve the use of a complex spreading signal and phase shifting that complex spreading signal with a Hilbert transform to produce a phase shifting complex spreading signal as defined in claim 1.

The circuit in Stevenson does not even generate a single sideband spread spectrum signal for which a complex spreading signal is required. The disclosure in Stevenson, as illustrated in Figure 1, merely utilizes a subcarrier w_k at a frequency at the center of the processed base band signal, which is split into two quadrature phase components which are then mixed with the audio input to produce a phase shifted input signal. The subcarrier signal w_k is clearly not a complex

spreading signal required in claim 1 or as discussed in greater detail on page 8, line 11 - page 9, line 10 of the present application.

In summary, Stevenson describes taking an audio input and from that audio input generating an IF output as a single sideband signal (- ACSB signal). In contrast, claim 1 describes taking an input signal and from that input signal generating a single sideband spread spectrum signal, using a Hilbert filter in conjunction with a generated complex spreading signal.

Furthermore, for the avoidance of doubt it is noted that Stevenson describes several discrete systems, where Figure 1 is a transmitter wherein a single sideband signal (I.F. output) is generated, whereas Figure 2, 4, 5 and 6 relate to a receiver where an I.F. (ACSB) signal is processed into an audio output signal. Therefore, when considering the relevance of Stevenson, only Figure 1 and the corresponding description is even possibly relevant to the present claims, which are directed to generating a single sideband spectrum signal based on an input signal, rather than generating an output signal from an input single side band signal as illustrated in the receiver embodiments in Stevenson.

The Examiner has cited the Stevenson text at column 10, lines 4-15 as allegedly disclosing the features of step 2. However, the applicant is of the opinion that Stevenson (as already discussed above), fails to disclose the generating and subsequent use of a complex spreading signal in the phase shifting process in accordance with a Hilbert transform. Indeed, the system described in Stevenson using a Weaver modulator is the same as the well-known phasing method for generating single side band signals, which is acknowledged in the present

description together with its associated problems on page 1, lines 39-31 of the applicant's specification.

Therefore, claim 1 is novel over Stevenson. Furthermore, there is no teaching or suggestion in Stevenson on how to modify its system for generating standard single side band signals to produce single sideband spread spectrum signals in the manner specifically defined in claim 1. thus, claim 1 is also non-obvious over Stevenson.

In view of the fundamental deficiencies of Stevenson as already noted above, it is not believed necessary at this time to detail the further deficiencies of this reference with respect to the independent claims or dependent claims.

The rejection of claim 4 under 35 U.S.C. §103 as allegedly being made "obvious" based on Stevenson '069 is also respectfully traversed. Once again, in view of the fundamental deficiencies of Stevenson with respect to parent claim 1, it is not believed necessary at this time to detail the additional deficiencies of Stevenson with respect to claim 4.

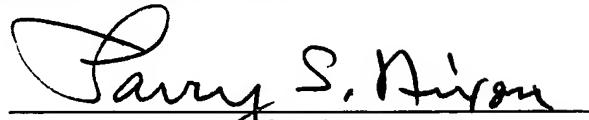
Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

WIDDOWSON et al
Appl. No. 10/031,231
September 19, 2005

Respectfully submitted,

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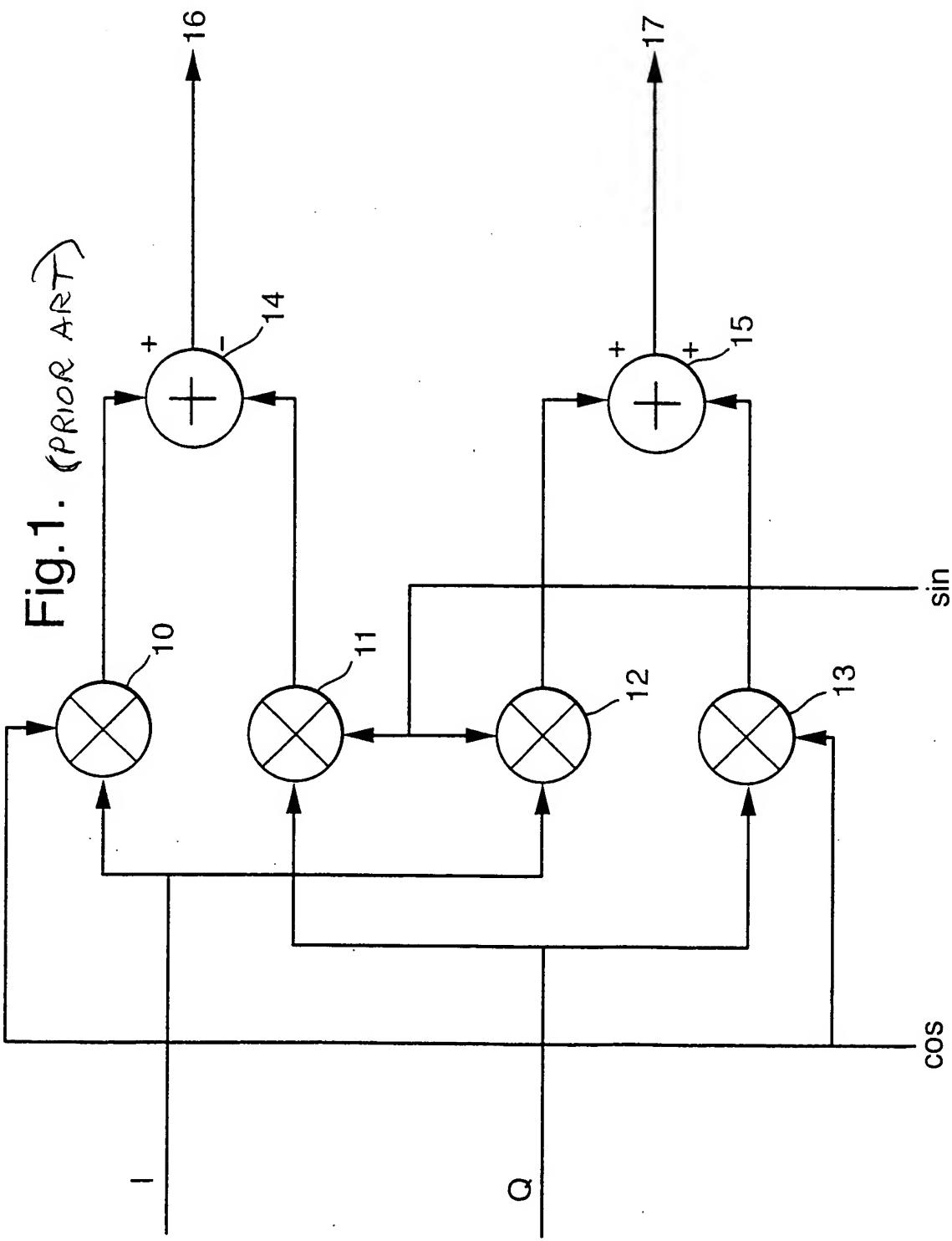
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AMENDMENTS TO THE DRAWINGS

Proposed replacement sheets are attached for Figures 1 and 2 which add the legend "prior art" thereto. A copy of the original drawing sheets showing these changes in read is also attached.

Attachment: Replacement Sheet(s)
Annotated Sheet Showing Changes

FOR SN 10/031,231



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Fig.2. (PRIOR ART)

